

## **ABSTRACT OF THE DISCLOSURE**

5 The present invention provides a transformer having a positive temperature coefficient resistivity polymer element electrically coupled to either the primary or secondary winding of the transformer to provide protection against overcurrent, short circuit and thermal overheating conditions. Use of the positive temperature coefficient resistivity polymer element helps to further reduce the amount of space needed for electrical and thermal protection of the transformer while lowering manufacturing costs by eliminating the use of a fuse and fuse block. The positive temperature coefficient resistivity polymer element also provides an advantage to the end user in that the positive temperature coefficient resistivity polymer element does not require replacement, unlike prior art fuses, following an overcurrent, short circuit or thermal overheating event.

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